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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,075	01/12/2005	Carl Berthelette	MC062YP	6587

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EXAMINER	
POWERS, FIONA	

ART UNIT	PAPER NUMBER
1626	

DATE MAILED: 08/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/521,075	BERTHELETTE ET AL.	
	Examiner	Art Unit	
	Fiona T. Powers	1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11,15,20,21,26,27,32 and 41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *27* is/are allowed.

6)☒ Claim(s) *1-5,7,32 and 41* is/are rejected.

7)☒ Claim(s) *6,8-11,15,20,21 and 26* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/12/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Receipt is acknowledged of the preliminary amendment and information disclosure statement filed January 12, 2005, which have been entered in the file.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 32 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method for treating a chronic cyclooxygenase-2-mediated disease or disorder wherein said chronic cyclooxygenase-2-mediated disease or disorder is selected from the group consisting of pain, fever and inflammation of a condition selected from the group consisting of rheumatic fever, symptoms associated with influenza or other viral infections, common cold, low back pain, neck pain, dysmenorrhea, headache, migraine, toothache, sprains and strains, neuralgia, synovitis, rheumatoid arthritis, osteoarthritis, gout, bursitis, burns, injuries, and pain and inflammation following surgical procedures and inhibition of the onset or progression of Alzheimer's disease, does not reasonably provide enablement for a method for treating all chronic cyclooxygenase-2 mediated diseases. The specification does not

enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

The factors to be considered in determining whether a disclosure meets the enablement requirement of 35 U.S.C. 112, first paragraph are as follows:

1. the nature of the invention,
2. the state of the prior art,
3. the predictability or lack thereof in the art,
4. the amount of direction or guidance present,
5. the presence or absence of working examples,
6. the breadth of the claims,
7. the quantity of experimentation needed, and
8. the level of skill in the art.

See In re Wands, 8 USPQ2d 1400.

The nature of the invention is the treatment of all chronic cyclooxygenase-2 mediated diseases.

The state of the prior art is that the pharmacological art involves screening in vitro and in vivo to determine which compounds exhibit the desired pharmacological activities (i.e. what compounds can treat which specific diseases and by what mechanism). There is no absolute predictability even in view of the seemingly high level of skill in the art. The existence of

these obstacles establishes that the contemporary knowledge in the art would prevent one of ordinary skill in the art from accepting any therapeutic regimen on its face.

It is noted that the pharmaceutical art is unpredictable, requiring each embodiment to be individually assessed for physiological activity. In re Fisher, 166 USPQ 18 indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute.

Applicants are claiming the treatment of any chronic cyclooxygenase-2 mediated disease. This includes the treatment and/or prevention of cancer. The state of the prior art is that cancer therapy remains highly unpredictable. The various types of cancers have different causative agents, involve different cellular mechanisms, and consequently, differ in treatment protocol. It is known that the challenge of cancer treatment has been to target specific therapies to pathogenetically distinct tumor types, that cancer classification has been based on primarily on morphological appearance of the tumor and that tumors with similar histopathological appearance can follow significantly different clinical courses and show different responses to therapy (Golub et al. page 531). Furthermore, it is known that chemotherapy is most effective against tumors with rapidly dividing cells and that cells of solid tumors divide

relatively slowly and chemotherapy is often less effective against them.

The only direction or guidance present in the instant specification is a Microsomal Cyclooxygenase Assay, Human Whole Blood Cyclooxygenase Assay and Rat Paw Edema Assay. There are no working examples present for the treatment of any chronic cyclooxygenase-2 mediated disease.

The breadth of the claims is the treatment of any chronic cyclooxygenase-2 mediated disease.

The quantity of experimentation needed is undue experimentation. One of skill in the art would need to determine what diseases would be benefited (treated) by and would then have to determine which of the claimed compounds would provide treatment of which disease, if any.

The level of skill in the art is high. However, due to the unpredictability in the pharmaceutical art, it is noted that each embodiment of the invention is required to be individually assessed for physiological activity by in vitro and in vivo screening to determine which compounds exhibit the desired pharmacological activity and which diseases would benefit from this activity.

Thus, the specification fails to provide sufficient support of the broad use of the compound of the instant claims for the

treatment of all chronic cyclooxygenase-2 mediated diseases. As a result necessitating one of skill to perform an exhaustive search for which diseases can be treated by what compounds of the instant claims in order to practice the claimed invention.

Genetech Inc. v. Novo Nordisk A/S 42 USPQ2d 1001 states that "a patent is not a hunting license. It is not a reward for search, but compensation for its successful conclusion" and "patent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable".

Therefore, in view of the Wands factors and In re Fisher discussed above, to practice the claimed invention herein, one of skill in the art would have to engage in undue experimentation to test which diseases can be treated by the compound encompassed in the instant claims, with no assurance of success.

To overcome this rejection, claim 32 should be amended by inserting at the end of the claim -wherein said chronic cyclooxygenase-2 mediated disease or condition is selected from the group consisting of pain, fever and inflammation of a condition selected from the group consisting of rheumatic fever, symptoms associated with influenza or other viral infections, common cold, low back pain, neck pain, dysmenorrhea, headache,

migraine, toothache, sprains and strains, neuralgia, synovitis, rheumatoid arthritis, osteoarthritis, gout, bursitis, burns, injuries, and pain and inflammation following surgical procedures and inhibition of the onset or progression of Alzheimer's disease-. Note that these diseases or conditions are those listed on page 30, line 25 to page 31, line 8 excluding myositis, ankylosing spondylitis and cancer, for which there are cited journal articles which support the use of COX-2 inhibitors for treatment of or for which the use of COX-2 inhibitors is well known.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 to 5, 7 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bandarage et al. (WO 01/45703), cited by applicants.

Determination of the scope and content of the prior art (MPEP §2141.01)

The reference discloses structurally similar compounds that are cyclooxygenase-2 inhibitors that are useful for the treatment of inflammation, pain and fever. The compounds of the

reference are structurally similar to the claimed compounds of the formula I wherein R^1 is SO_2CH_3; one of R^2 and R^3 is H and the other is halo; R^4 is H or ethyl; and R^5 is NO_2. Note Examples 8 and 9. The reference also discloses pharmaceutical compositions comprising the compounds.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

The compounds of the reference differ from those claimed in that they are homologs, i.e. an ethylene group replaces the methylene group next to the oxygen bearing the R^5 substituent.

Finding of prima facie obviousness---rational and motivation (MPEP §2142-2413)

It has been held that homologs are obvious over one another. Note In re Wood, 199 USPQ 137, for example. One of ordinary skill in the art would have been motivated to make the claimed compounds with the expectation that additional compounds useful for the treatment of inflammation, pain and fever would be obtained. The claimed compounds and pharmaceutical compositions would have been rendered obvious by the homologs of the reference in the absence of any unobvious property.

Claim 27 is allowed.

Claims 6, 8 to 11, 15, 20, 21 and 26 are objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The references made of record and not relied upon show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fiona T. Powers whose telephone number is 571-272-0702. The examiner can normally be reached on Monday - Friday 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Fiona T. Powers
Fiona T. Powers
Primary Examiner
Art Unit 1626

ftp
August 16, 2006